

REMARKS

Review and reconsideration of the non-final Office Action mailed May 4, 2011 (hereinafter "Office Action"), is respectfully requested in view of the arguments made herein. No fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency or credit any surplus to Deposit Account No. 04-1679.

In the Office Action, claims 1-24 were pending, with claims 1-4 being rejected under one or more of 35 U.S.C. §102(b), 35 U.S.C. §103(a) or 35 U.S.C. §112, second paragraph. By this Amendment, claims 1-4 are amended and claim 25 is added. Support for the subject matter of the amended claims can be found throughout the specification. *See, e.g.*, Page 10, Table 1, withdrawn claim 6.

The amendments presented herein have been made solely to expedite prosecution of the instant application to allowance and should not be construed as an indication of Applicant's agreement with or acquiescence to the Examiner's position. Accordingly, Applicant expressly maintains the right to pursue broader subject matter through subsequent amendments, continuation or divisional applications, reexamination or reissue proceedings, and all other available means. The rejections and responses thereto are set forth fully below.

Claim Rejections – 35 USC § 112, Second Paragraph

Claims 3-4 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant claims as the invention. Applicant respectfully submits that amended claims 3 and 4 overcome these rejections. Accordingly, Applicant respectfully requests that the rejections based on 35 U.S.C. § 112, second paragraph, be withdrawn.

Claim Rejections – 35 USC §§ 102, 103(a)

In the Office Action, claims 1-3 were rejected under 35 U.S.C. § 102 as anticipated by the journal article by Zhao et al. ("Zhao"). In the Office Action, claim 4 was rejected under 35 U.S.C. § 102 as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over the

journal article by Zhao et al. ("Zhao"). As set forth in amended claim 1, the claimed hydrotalcite-like substance is drawn to:

1. (Currently Amended) A hydrotalcite-like substance prepared by a process comprising:
 - mixing an acidic solution containing aluminum ions and magnesium ions and an alkaline solution containing alkali; and
 - subjecting the mixture to water removal or neutralization, without ageing, wherein said hydrotalcite-like substance has an average a crystallite size of 9.5 20 nm or less.

Of particular, the claimed hydrotalcite-like substance is produced by mixing an acidic solution containing aluminum ions, magnesium ions and an alkaline solution containing alkali, and then subjecting the mixture to water removal or neutralization without ageing. The resulting hydrotalcite-like substance has an average crystallite size of 9.5 nm or less.

Zhao teaches that a hydrotalcite-like substance containing magnesium and aluminum and having crystallite sizes in the range of 9.6 nm or more. Zhao, Table 1. Furthermore, the LDH relied upon for the rejection was produced using the conventional "constant-pH method," while the "new method" resulted in much larger LDH particles. *Id.* Thus, Zhao does not disclose a hydrotalcite-like substance having crystallite sizes in the range of 9.5 nm or less. Rather, Zhao actually teaches away from the claimed hydrotalcite-like substances with an crystallite size of 9.5 nm or less. Therefore, Zhao does not anticipate the claimed hydrotalcite-like substances.

Furthermore, Zhao neither discloses nor suggests "subjecting the mixture to water removal or neutralization, without ageing". In fact, Zhao discloses that "the resulting slurry was ... aged at 100°C for 13h" (see line 3, right column, page 4288). Thus, Zhao not only fails to disclose the claimed crystallite size, Zhao actually teaches away from the claimed crystallite size.

In contrast, the present invention as set forth in amended Claim 1 is directed to "a hydrotalcite-like substance prepared by subjecting the mixture to water removal or neutralization, without ageing." The hydrotalcite-like substance recited in amended Claim 1 has the very small average crystallite size, *i.e.*, 9.5 nm or less, because it is prepared without an ageing process and without the growth of the crystal thereof. Additionally, the hydrotalcite-like substance recited in amended Claim 1 has an advantage that mass production can be easily achieved in a short time

due to without aging process. Finally, the Specification provides numerous examples showing that the claimed hydrotalcite-like substances exhibit properties that are far superior to hydrotalcite-like substances produced using conventional methods. *See, e.g.*, Specification, Pages 12-17 (referring to Figures 2-7). In view of at least the foregoing, Applicant respectfully requests that all rejections based on Zhao be withdrawn.

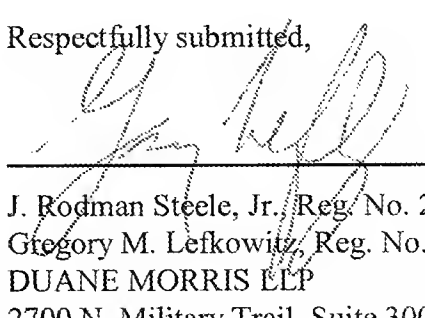
In the Office Action, claims 3-4 were rejected under 35 U.S.C. § 102 as anticipated by the journal article by Miyata. ("Miyata"). Miyata does not provide any teaching regarding the average crystallite size, which is a limitation of claim 1. As claims 3 and 4 are dependent on claim 1, Miyata fails to disclose or suggest the claimed hydrotalcite-like substance having an average crystallite size of 9.5 nm or less. In view of at least the foregoing, Applicant respectfully requests that all rejections based on Miyata be withdrawn.

Conclusion

For at least the reasons set forth above, the independent claims are believed to be allowable. In addition, the dependent claims are believed to be allowable due to their dependence on an allowable base claim and for further features recited therein. The application is believed to be in condition for immediate allowance. If any issues remain outstanding, Applicant invites the Examiner to call the undersigned Greg Lefkowitz (direct line 561-962-2110) if it is believed that a telephone interview would expedite the prosecution of the application to an allowance.

Date: July 29, 2011

Respectfully submitted,



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